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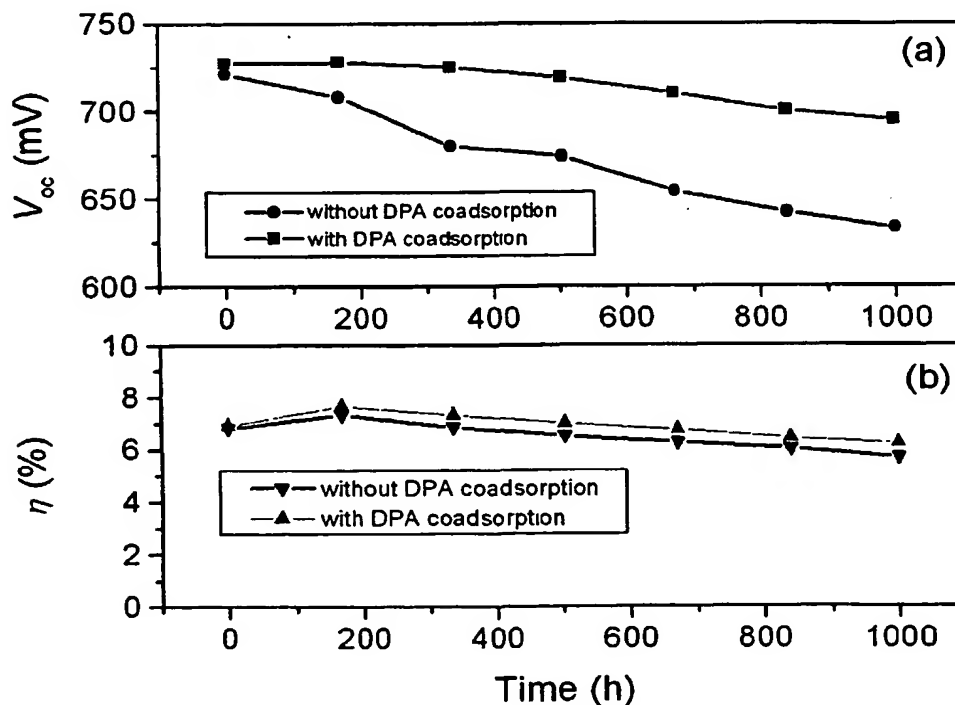
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[Continued on next page]

(54) Title: **DYE SENSITIZED SOLAR CELL**



(57) Abstract: A dye sensitized solar cell, wherein a compacting compound whose molecular structure comprises a terminal group, a hydrophobic part and an anchoring group is co-adsorbed together with the dye on the semi-conductive metal oxide layer of the photoanode, forming a dense mixed self-assembled monolayer.



European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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# INTERNATIONAL SEARCH REPORT

International Application No

PCT/CH2004/000262

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H01G9/20

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H01G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, INSPEC

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	ZAKEERUDDIN S M ET AL: "DESIGN, SYNTHESIS, AND APPLICATION OF AMPHIPHILIC RUTHENIUM POLYPYRIDYL PHOTSENSITIZERS IN SOLAR CELLS BASED ON NANOCRYSTALLINE TiO2 FILMS" LANGMUIR, ACS, WASHINGTON, DC, US, vol. 18, no. 3, 5 February 2002 (2002-02-05), pages 952-954, XP001173159 ISSN: 0743-7463	1,2,6,7, 13-15
A	the whole document	3-5
Y	US 6 376 765 B1 (QIAN CHANG-YI ET AL) 23 April 2002 (2002-04-23) column 5, line 15 - column 69, line 9; figures 1-9	1,2,6,7, 13-15
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

\* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

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"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

25 August 2004

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## INTERNATIONAL SEARCH REPORT

International Application No  
PCT/CH2004/000262

## C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 93/20569 A (SANDOZ AG ; HASLER ROLF (CH); SANAHUJA VICTOR (CH); SANDOZ LTD (CH); S) 14 October 1993 (1993-10-14) the whole document	1,10-15
P,A	----- LAGREF J-J ET AL: "MOLECULAR ENGINEERING ON SEMICONDUCTOR SURFACES: DESIGN, SYNTHESIS AND APPLICATION OF NEW EFFICIENT AMPHIPHILIC RUTHENIUM PHOTOSENSITIZERS FOR NANOCRYSTALLINE TiO2 SOLAR CELLS" SYNTHETIC METALS, ELSEVIER SEQUOIA, LAUSANNE, CH, vol. 138, no. 1/2, 2003, pages 333-339, XP001173156 ISSN: 0379-6779 the whole document	1-9
A	----- WO 02/071496 A (UNIV COLUMBIA ; SALAFSKY JOSHUA (US)) 12 September 2002 (2002-09-12) the whole document	1,10-15
A	----- US 5 482 570 A (SAURER ERIC ET AL) 9 January 1996 (1996-01-09) the whole document -----	1,10-15

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/CH2004/000262

## Box II Observations where certain claims were found unsearchable (Continuation of Item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box III Observations where unity of invention is lacking (Continuation of Item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-15

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-15

compacting compound to be co-absorbed with dye sensitising compound

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2. claims: 16-26

Composition of the electrolyte, in particular of its additives

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/CH2004/000262

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
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